OIPE

PATENT APPLICATION: US/09/771,045 TIME: 12:14:08 Input Set : A:\1134CSEQLIST.TXT Does Not Comply Corrected Diskette Needec Output Set: N:\CRF3\02082001\I771045.raw 4 <110> APPLICANT: Duvick, Jonathan P. Gilliam, Jacob T. Maddox, Joyce R. 8 <120> TITLE OF INVENTION: Amino Polyol Amine Oxidase Polynucleotides and Related Polypeptides and Methods of Use 12 <130> FILE REFERENCE: 1134C C--> 14 <140> CURRENT APPLICATION NUMBER: US/09/771,045 C--> 14 <141> CURRENT FILING DATE: 2001-01-26 14 <150> PRIOR APPLICATION NUMBER: US 60/092,936 15 <151> PRIOR FILING DATE: 1998-07-15 17 <150> PRIOR APPLICATION NUMBER: US 60/135,391 18 <151> PRIOR FILING DATE: 1999-05-21 20 <150> PRIOR APPLICATION NUMBER: US 09/352,159 21 <151> PRIOR FILING DATE: 1999-07-12 23 <150> PRIOR APPLICATION NUMBER: US 09/352,168 24 <151> PRIOR FILING DATE: 1999-07-12 26 <160> NUMBER OF SEQ ID NOS: 53 28 <170> SOFTWARE: FastSEQ for Windows Version 3.0 30 <210> SEQ ID NO: 1 31 <211> LENGTH: 372 32 <212> TYPE: DNA 33 <213> ORGANISM: Exophiala spinifera 35 <220> FEATURE: 36 <221> NAME/KEY: misc_feature 37 <222> LOCATION: (346)...(346) 38 <223> OTHER INFORMATION: n = A,T,C or G 40 <400> SEQUENCE: 1 41 gggccccggc gttctcgtag gctgcgcgga gttggtccca gacagacttt tgtcgtacct 60 42 gettggaetg ttgggaecae tteegteecg ggteteegae catgaaacag gtaatggaec 120 43 attgtcgatc gacgtcgatg ctggtatctc tggcaaatga gatggggtca cagctcgatt 180 44 ggaggacgcc cgagaagcct tgttcgcgcc accacggctt gtcccatacg aagactatct 240 45 tgctatagta gcccaggata gaattttccg ccaatgcttg cttctcggcg ggaagaggtg w 46 gtgaaaatgt caaggtggga tacaaggttg tcggtaacga aaccancacc tttttgcttc 300 360 47 ggaacacggc gc 372 49 <210> SEQ ID NO: 2 50 <211> LENGTH: 182 51 <212> TYPE: DNA 52 <213> ORGANISM: Exophiala spinifera 54 <400> SEQUENCE: 2 55 gaattttccg ccaatgcttg cttctcggcg ggaagaggtg gtgaaaatgt caaggtggga 60 56 tacaaggttg tcggtaacga aaccaccacc tttttgettc ggaacacggc gcccgaggcc 120

gategtactg tacageegga tgeegactge teaattteag egaegggggt gttgaggtge

DATE: 02/08/2001

RAW SEQUENCE LISTING

60 <210> SEQ ID NO: 3 61 <211> LENGTH: 29 62 <212> TYPE: DNA

63 <213> ORGANISM: Artificial Sequence

57

58 ac

180

182

RAW SEQUENCE LISTING DATE: 02/08/2001 PATENT APPLICATION: US/09/771,045 TIME: 12:14:08

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69	<400>	SEQ	UENC	E: 3													
70																29	
72	72 <210> SEQ ID NO: 4 73 <211> LENGTH: 28																
73	<211>	LEN	GTH:	28													
74	<212>	TYP	E: D	NA													
75	<213>	ORG	ANIS	M: A	rtif	icia	l Se	quen	ce								
77	<220>	FEA	TURE	:													
78	<223>	OTH	ER I	NFOR	MATI	ON:	Desi	gned	loli	.gonu	cleo	tide	for	5 1	RACE	, 21968	
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	<400>						,										
93						ata	qta	ata	ata	aac	gct	aac	tta	age	gat	tta	48
94	-		-		-		_				Āla						
95	1				5					10		^			15		
97	gag	acq	qca :	cac	aaa	atc	cag	acc	qcc	aat	ctg	tcc	tac	ctc	att	ctt	96
98		_	-	-		-	-		-		Leu						
99				20					25	- 1			- 4	30			
101	gag	aca	atq	gat	cat	qta	aaa	qqa	aaq	act	ctg	ago	qta	caa	tca	gat	144
102			_	_	_				_		Leu	-	-		_		
103			35		,		4	40	-				4.5			- 4	
105	ccc	ggc	agg	acq	act	atc	aac	gac	ctc	qqc	gct	qcq	t.qq	atc	aat	gac	192
106				_				-			Āla					-	
107		50	_				55	-		-		60	-			•	
109	agc	aac	caa	agc	gaa	gta	tcc	aga	ttg	ttt	gaa	aga	ttt	cat	ttg	gag	240
110	-			-	_	-		-	_		Ğlu	-			_		
111	65					70		_			75	~				80	
113	qqc	gag	ctc	cag	agg	acq	act	gga	aat	tca	atc	cat	caa	gca	caa	gac	288
114				_		_					Ile			-		-	
115	-				85			-		90					95	~	
117	ggt	aca	acc	act	aca	gct	cct	tat	gat	gac	tcc	ttq	ctq	agc	gag	qaq	336
118						-				_	Ser		_	-			
119	•			100				-	105	_				110			
121	gtt	gca	aqt	gca	ctt	gca	gaa	ctc	ctc	ccc	gta	tga	tct	caq	cta	atc	384
122	-	_	-	-			-				va1			_	-		
123			115	•			_	120	. ••			Ľ	125				
125	gaa	gaq		agc	ctt	caa	qac		aaa	qca	agc	cct	caq	qcq	aaq	cqq	432
126	-			-			-		-		Ser		-		_		-
127		130					135					140			<u>, , </u>	2	
129	ctc		aqt	gta	age	ttc		cac	tac	tat	gag			cta	aac	ttg	480
130		-	_		_					_	Glu	_	-			_	
-				_			-	_				• -	-				

RAW SEQUENCE LISTING DATE: 02/08/2001 PATENT APPLICATION: US/09/771,045 TIME: 12:14:08

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133	cet	gct	gtt	ctc	ggc	gta	gca	aac	cag	atc	aca	cgc	gct	ctg	ctc	ggt	528
134	Pro	Ala	Val	Leu		Val	Ala	Asn	Gln		Thr	Arg	Ala	Leu		GIY	
135					165					170					175		
137		gaa															576
138	Val	Glu	Ala	His	Glu	Ile	Ser	Met	Leu	Phe	Leu	Thr	Asp		Ile	Lys	
139				180					185					190			
141		gcc															624
142	Ser	Ala	Thr	Gly	Leu	Ser	Asn	Ile	Phe	Ser	Asp	Lys	Lys	Asp	Gly	Gly	
143			195					200					205				
145		tat															672
146	Gln	Tyr	Met	Arg	Cys	Lys	Thr	Gly	Met	Gln	Ser	Ile	Cys	His	Ala	Met	
147		210					215					220					
149	tca	aag	gaa	ctt	gtt	cca	ggc	tca	gtg	cac	ctc	aac	acc	CCC	gtc	gct	720
150	Ser	Lys	Glu	Leu	Val	Pro	Gly	Ser	Val	His	Leu	Asn	Thr	Pro	Val	Ala	
151	225	_				230					235					240	
153	qaa	att	gag	cag	tcg	gca	tcc	ggc	tgt	aca	gta	cga	t.cg	gcc	tcg	ggc	768
154	Ğlu	Ile	Ğlu	Gln	Ser	Ala	Ser	Gly	Cys	Thr	Val	Arg	Ser	Ala	Ser	Gly	
155					245			_	_	250					255		
157	qcc	gtg	ttc	cga	age	aaa	aag	gtg	gtg	gtt	tcg	tta	ccg	aca	acc	ttg	816
158	Āla	Vaĺ	Phe	Arq	Ser	Lys	Lys	Val	Val	Val	Ser	Leu	Pro	Thr	Thr	Leu	
159				260		-	-		265					270			
161	tat	ccc	acc	tta	aca	ttt	tca	cca	cct	ctt	ccc	gcc	gag	aag	caa	gca	864
162		Pro															
163	-1-		275					280					285	-			
165	tta	gcg		aat.	tct	atc	cta	aac	tac	tat	age	aaq	ata	qtc	ttc	qta	912
166	Len	Ala	Glu	Asn	Ser	Ile	Leu	Ğĺv	Tvr	Tvr	Ser	Lvs	Ile	Val	Phe	Val	
167		290					295	2	- 4	1		300					
169	taa	gac	aaq	cca	taa	taa		qaa	caa	qqc	ttc	tcq	qqc	qtc	ctc	caa	960
170	Tro	Asp	Lvs	Pro	Trp	Tro	Ara	Glu	Gln	ĞÎv	Phe	Ser	Ğly	Val	Leu	Gln	
171	305	I-	-1-			310	. ,			_	315		-			320	
173		agc	t.at.	αac	ccc	atc	tca	ttt	qcc	aga	gat	acc	agc	atc	qac	gtc	1008
174		Ser															
175	001	001	010	-1-0 F	325					330					335		
177	gat	cga	caa	taa		at.t.	acc	tat	ttc	atq	atc	qqa	gac	ccq	qqa	caa	1056
178		Arq															
179	пор	9	0.211	340	001			0,10	345				1	350	-	_	
181	aad	tgg	tcc		cad	tec	ааσ	cad		cga	caa	aaσ	tet		taa	gac	1104
182	Luc	Trp	Ser	Gln	Gln	Ser	Lvs	Gln	Val	Ara	Gln	Lvs	Ser	Val.	Tro	Asp	
183	шуз	111	355	0111	O.L.I.	001	L J	360				272	365			<u>-</u>	
185	caa	ctc		aca	acc	tac	σασ		acc	aaa	acc	caa		cca	gag	ccq	1152
186	Gln	Leu	Ara	Δla	Δla	Tyr	Glii	Asn	Ala	Glv	Ala	Gln	Val	Pro	Glu	Pro	
187	0111	370	*** 9		11.24	- 7 -	375					380			-		
189	acc	aac	ata	ctc	паа	atc		taa	tca	ааσ	cad		tat	t.t.c	caa	aga	1200
190	Δla	Asn	Val	Leu	Glu	Tle	Glu	Trp	Ser	Lvs	Gln	Gln	Tvr	Phe	Gln	Glv	
191	385	non	vul	пси	Jiu	390	JIU	1.1	201	1 0	395	54.11	~1 ~			400	
193		ccg	ann	acc	atc		aan	cta	aac	gat		atc	aca	cta	aat		1248
194		Pro															
195	r T a	E T ()	೧೮1	TTG	405	- 1 -	O'T A	⊔ټ⊔		410	₽-Cu	110	~	u	415		
エフン					400					± ± 0					120		

RAW SEQUENCE LISTING DATE: 02/08/2001 PATENT APPLICATION: US/09/771,045 TIME: 12:14:08

197	gcg	ctc	aga	acg	ccg	ttc	aag	agt	gtt	cat	ttc	gtt	gga	acg	gag	acg		1296
198 199			_	420		Phe			425					430				4044
201 202	tct	tta	gtt Val	tgg Trp	aaa Lys	ggg Gly	tat Tvr	atg Met	gaa Glu	ggg Glv	gcc Ala	ata Ile	cga Arq	tcg Ser	ggt Glv	caa Gln		1344
203			435					440					445		•		Se je	1206
205 206	cga Arg	ggt Glv	gct Ala	gca Ala	gaa Glu	gtt Val	gtg Val	gct	agc Ser	ctg Leu	gtg Val	cca Pro	gca Ala	gca Ala				1386
207		450					455					460						1389
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	<210×		-															
	<2112				4													
	<213				iaox:	hiala	a sp	inife	era									
	<400					iiiai	L DP.											
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218	1	11511	· u =	111.0	5	,				10		4			15			
219		Thr	Ala	Ara		Val	Gln	Ala	Ala	Gly	Leu	Ser	Cys	Leu	Val	Leu		
220				20					25			•	-	30				
221	Glu	Ala	Met	Asp	Arg	Val	Gly	Gly	Lys	Thr	Leu	Ser	Val	Gln	Ser	Gly		
222			35	_	-		_	40					45					
223	Pro	Gly	Arg	Thr	Thr	Ile	Asn	Asp	Leu	Gly	Ala	Ala	${\tt Trp}$	Ile	Asn	Asp		
224		50					55					60						
225	Ser	Asn	Gln	Ser	Glu	Val	Ser	Arg	Leu	Phe	Glu	Arg	Phe	His	Leu	Glu		
226	65					70					75					80		
227	Gly	Glu	Leu	Gln	Arg	Thr	Thr	Gly	Asn	Ser	Ile	His	Gln	Ala		Asp		
228					85					90				_	95	- 2		
229	Gly	Thr	Thr		Thr	Ala	Pro	Tyr		Asp	Ser	Leu	Leu		Glu	GLu		
230				100				_	105			ten.		110	Ŧ	T7 -		
231	Val	Ala		Ala	Leu	Ala	Glu		Leu	Pro	Val	Trp		GIII	Leu	116		
232		- 1	115	~	¥	21.		120	T	7.1.0	Cox	Dro	125	7.1.2	Tuc	λνα		
233	Glu		HIS	ser	Leu	Gln	135	теп	ьуѕ	Ата	ser	140	GIII	Ala	шуз	nr 9		
234	T 0	130	Cor	Val	cor	Phe		иіс	dizz.c.	Cvre	Glu		Glu	T.eu	Asn	Len		
235 236	145	ASP	261	Val	361	150	Ата	11172	тут	Cys	155	шуо	Oru	шеч		160		
237		λlа	Va l	t.an	G1 v	Val	Δla	Asn	Gln	Tle		Ara	Ala	Leu	Leu			
238	FIO	AIU	VUI	пси	165	141	1114	11011	0411	170		9			175			
239	Val	Glu	Ala	His		Ile	Ser	Met.	Leu		Leu	Thr	Asp	Tyr	Ile	Lys		
240	741	o_u	1124	180					185				•	190		•		
241	Ser	Ala	Thr		Leu	Ser	Asn	Ile		Ser	Asp	Lys	Lys	Asp	Gly	Gly		
242			195	-				200					205					
243	Gln	Tyr	Met	Arg	Cys	Lys	Thr	Gly	Met	Gln	Ser	Ile	Cys	His	Ala	Met		
244		210					215					220						
245	Ser	Lys	Glu	Leu	Val	Pro	Gly	Ser	Val	His	Leu	Asn	Thr	Pro	Val	Ala		
246	225					230					235					240		
247	Glu	Ile	Glu	Gln		Ala	Ser	Gly	Cys		Val	Arg	Ser	Ala		G1y		
248					245					250	_	_	_		255			
249	Ala	Val	Phe		Ser	Lys	Lys	Val		Val	Ser	Leu	Pro		Thr	Leu		
250				260					265					270				



				-			•	•			•						
251	Tyr	Pro	Thr	Leu	Thr	Phe	Ser	Pro	Pro	Leu	Pro	Ala	Glu	Lys	Gln	Ala	
252			275					280					285				
253	Leu		Glu	Asn	Ser	Ile		Gly	Tyr	-	Ser		Ile	Val	Phe	Val	
254		290	_	_			295			~ .	m.1	300			_	~ 1	
255	-	Asp	Lys	Pro	Trp	-	Arg	Glu	Gln	Gly		Ser	GIŢ	Val	Leu		
256	305	_	_	_	_	310				_	315	_,	_	1	_	320	
257	Ser	Ser	Cys	Asp		He	Ser	Phe	Ala	_	Asp	Thr	Ser	lle	_	Val	
258		7	Ċ1	TT	325	T1 -	/TI }=	Q	Dha	330	170 1	C1 **	7	Dws	335	7	
259	ASP	Arg	GIN	340	ser	me	Thr	Cys	Phe 345	Met	val	GTĀ	Asp	350	GTĀ	Arg	
260 261	Tiro	mnn.	C 0 22		C1n	Com	Tro	Cln		λπα	Cin	Tric	Con		mrn.	Acn	
262	Lys	11.0	355	GIII	GIII	361	шys	360	Val	ALG	GIII	ryy	365	val	115	нар	
263	Cln	T Ou		7.15	ΛΊэ	Птг	GIn		Ala	Clv	Λla	Cln		Dro	Clu	Dro	
264	Gili	370	ALY	нта	AIG	тут	375	ASII	AIG	Gly	niu	380	Val	11.0	GIU	-10	
265	Δla		Va 1	Len	Glu	Tle		ጥተኮ	Ser	T.v.c	Gln		ጥህኮ	Phe	Gln	Glv	
266	385	11011	141	пси	Ora	390	Giu	111	501	11 5	395	0	+1.	1 110	0111	400	
267		Pro	Ser	Ala	Val		Glv	Len	Asn	Asp		Tle	Thr	Leu	Glv		
268			001	11.1.00	405	-1-	~~ ₁	200		410	200				415	20	
269	Ala	Leu	Arq	Thr		Phe	Lvs	Ser	Val		Phe	Val	Gly	Thr	Glu	Thr	•
270				420					425				4	430			•
271	Ser	Leu	Val	Trp	Lys	Gly	Tyr	Met	Glu	Gly	Ala	Ile	Arg	Ser	Gly	Gln	
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	<221>																
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	<222>				•) !	(099))									
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293	-				_				Val		-	-		-			10
294	1		, 41		5	,	, 41	,	,	10		0 = 2			15		
296		acq	qca	cqc	aaa	atc	caq	qcc	gcc		ctq	tcc	tqc	ctc	qtt	ctt	96
297	-	_	-	-				-	Ala	_							
298				20					25				-	30			
300	gag	gcg	atg	gat	cgt	gta	ggg	gga	aag	act	ctg	agc	gta	caa	tcg	ggt	144
301									Lys								
302			35	-	-		-	40					45				
304	ccc	ggc	agg	acg	act	atc	aac	gac	ctc	ggc	gct	gcg	tgg	atc	aat	gac	192
305	Pro	Gly	Arg	Thr	Thr	Ile	Asn	Asp	Leu	Gly	Ala	Ala	Trp	Ile	Asn	Asp	
306		50			•		55					60					
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09/771,045 6

<210> 19
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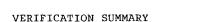
Sel tem 12 on Euro Jumman Sheet
<400> 19

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

471

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.



DATE: 02/08/2001 TIME: 12:14:09

Input Set : A:\1134CSEQLIST.TXT

PATENT APPLICATION: US/09/771,045

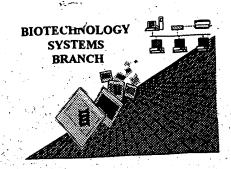
Output Set: N:\CRF3\02082001\1771045.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:46 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 L:349 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 7 L:1234 M:258 W: Mandatory Feature missing, <220> FEATURE: L:1234 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: L:1334 M:259 W: Allowed number of lines exceeded, <223> Other Information: L:1335 M:259 W: Allowed number of lines exceeded, <223> Other Information: L:1488 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: $\label{eq:loss_loss} \texttt{L:2095 M:258 W: Mandatory Feature missing, <223> \texttt{OTHER INFORMATION:}}$ L:2517 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: L:2989 M:258 W: Mandatory Feature missing, <220> FEATURE: L:2989 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: L:3153 M:259 W: Allowed number of lines exceeded, <223> Other Information: I:3154 M:259 W: Allowed number of lines exceeded, <223> Other Information: $\label{eq:loss_loss} \texttt{L:3487 M:258 W: Mandatory Feature missing, <220> FEATURE:}$ $\label{eq:L:3487} \texttt{M:258} \ \texttt{W:} \ \texttt{Mandatory} \ \texttt{Feature} \ \texttt{missing,} \ \ \ \ \ \ \texttt{C223>} \ \texttt{OTHER} \ \texttt{INFORMATION:}$ L:3810 M:258 W: Mandatory Feature missing, <220> FEATURE: L:3810 M:258 W: Mandatory Feature missing, <223> OTHER INFORMATION: L:4186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 L:4247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40

ERROR DETECTED SUGGESTED CORRECTION ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE The number/text at the end of each line "wrapped" down to the next line. Wrapped Nucleics This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". Wrapped Aminos The amino acid number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping". The rules require that a line not exceed 72 characters in length. This includes spaces. Incorrect Line Length The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs Misaligned Amino Acid between the numbering. It is recommended to delete any tabs and use spacing between the numbers. Numbering __ Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text so that it can be processed. Sequence(s) ____ contain n's or Xaa's which represented more than one residue. Variable Length As per the rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing. A "bug" in Patentin version 2.0 has caused the <220>-<223> section to be missing from amino acid Patentin ver. 2.0 "bug" . Normally, Patentin would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences. Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence: Skipped Sequences (2) INFORMATION FOR SEQ ID NO:X: (OLD RULES) (i) SEQUENCE CHARACTERISTICS: (Do not insert any headings under "SEQUENCE CHARACTERISTICS") (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: This sequence is intentionally skipped Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s). Skipped Sequences Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence. (NEW RULES) <210> sequence id number <400> sequence id number Use of n's' or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing. (NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents. Use of <213>Organism are missing this mandatory field or its response. (NEW RULES) 19 and more are missing the <220>Feature and associated headings. Use of <220>Feature Sequence(s) Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown" (NEW RULES) Please explain source of genetic material in <220> to <223> section. (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules) Patentin ver. 2.0 "bug" Please do not use "Copy to Disk" function of Patentln version 2.0. This causes a corrupted file, resalting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).

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